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The Rev. R. Sheepshanks, Vice-President, in the Chair.

Signor Gaetano Cacciatore, Director of the Observatory at Palermo, was balloted for, and duly elected an Associate of the Society.

John Russell Hind, Esq. observer to Mr. Bishop, at the Regent's Park Observatory, was balloted for, and duly elected a Fellow of the Society.

The following communications were read:—

I. Observations of the Moon and Moon-culminating Stars made at Port Essington, on the North Coast of Australia, in longitude $8^h\ 48^m\ 38^s$ east, and latitude 11° 22′ south. By Owen Stanley, Esq. Commander R.N.

The observations give the times of transit of the moon and moon-culminating stars, together with the rates of the clock, and they are corrected for errors of level and azimuth. They extend from June 20 to September 22, of the year 1839. No description of the transit instrument, with which they were made, is given.

II. Announcement of the discovery of Mauvais' Second Comet, in a Letter from M. Mauvais, dated July 9, 1844, addressed to Mr. Baily.

The comet was discovered on the night of Sunday, July 7. and was observed again on July 8. Information of its discovery was immediately forwarded to M. Schumacher. Its positions are given for the times of observation, and the daily motion is deduced from them. The place of the comparison-star is also given.

III. Circular Letter from Professor Encke, dated Berlin, 1844, July 10, announcing the independent discovery of the Comet, known as Mauvais' Second Comet, on the night of July 9, by M. D'arrest, a Student of the University at Berlin.

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M. D'arrest gave information of his discovery of the comet to Professor Encke, on the night of July 9, and furnished a position of it, from a good series of observations; he gave also its daily motion deduced approximately from a motion of 50′ in right ascension, and 20′ in declination.

IV. Astronomical Observations made at Hudson Observatory, United States, in longitude $5^h\ 25^m\ 39^s{\cdot}5$ west, and latitude $41^\circ\ 14'\ 42''{\cdot}6$ north. By Elias Loomis, Esq. Communicated by Lieutenant-Colonel Sabine.

Hudson Observatory is furnished with:—1. An equatorial telescope of 66 inches focal length, and about 4 inches aperture, made by Simms in 1837. The circles are 12 inches in diameter, reading by verniers; the one to single seconds of time, the other to ten seconds of arc. 2. A transit circle having a telescope of 30 inches focal length, and nearly 3 inches aperture, made also by Simms. The circle is 18 inches in diameter, graduated to five minutes, with three reading microscopes, each measuring single seconds. 3. A clock with a mercurial pendulum, by Molineux.

A particular description of the building, with the instruments and the mode of using them, is contained in the *Transactions of the American Philosophical Society*, New Series, Vol. VII. pp. 43-47. The latitude of the Observatory has been deduced, from 63 culminations of *Polaris*, and 4 of *β Ursæ Minoris*, to be $41^\circ\ 14'\ 42''{\cdot}6$; and the longitude, from 72 corresponding moon-culminations at Greenwich, and others at Cambridge, Oxford, and Edinburgh (150 in all), to be $5^h\ 25^m\ 39^s{\cdot}5$. The observations from which these results are derived are contained in the *Transactions of the American Philosophical Society*.

The observations contained in this paper were principally made with a circular micrometer attached to the equatorial: they consist of—

1. Observations of Encke's Comet on nine days, from March 28 to April 11, 1842.

2. Observations of the Great Comet of 1843 on six days, from March 11 to April 6, 1843.

3. Observations of Mauvais' First Comet on twenty-five days, from July 30 to October 1, 1843.

4. Observations of Faye's Comet on three days, January 23, February 10 and 11, 1844.

All the observations are corrected for the effects of refraction, parallax, and aberration; and, in the case of Encke's comet, the errors of Professor Encke's *Ephemeris* are exhibited. In every case the differences of the right ascension of the comet and the stars of comparison are given, and the number of repetitions of the observations from which each result is deduced. Tables are added, containing the right ascensions and declinations of the stars of comparison.

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